JB-QBC-BS10

Fire alarm system

Fixed water-based local application fire-fighting system

OPERATING INSTRUCTIONS

WUXI BRIGHTSKY ELECTRONIC CO.,LTD.

Content

1 DESCRIPTION....4

2 STANDARDS....5

3 FIRE ALARM CONTROLLER....6

3.1 FRONT PANEL OF FIRE ALARM CONTROLLE....6
3.2 OPERATIONAL FUNCTION LIST AND ACCESS LEVEL....8
3.3 STARTUP....9
3.4 FIRE ALARM....9
3.5 FAULT....11
3.6 SUPERVISORY....12
3.7 ACTIVATE....13
3.8 DISABLE....14
3.9 TEST....16
3.10 RESET....17
3.11 MUTE/SILENCE....17
3.12 LOCK/UNLOCK....18
3.13 MENU....18
3.13.1 ADJUST TIME....19
3.13.2 HISTORY RECORD....19
3.13.3 VERSION INFORMATION....20
3.13.4 SETUP DIMMER....20
3.13.5 DETECTOR TEST....20
3.13.6 SERVICE....21
3.13.6.1 DETECTOR INFORMATION....22
3.13.6.2 ZONE INFORMATION....23
3.13.6.3 LOGIC....24
3.13.6.4 WORKSPACE....24
3.13.6.5 SETTINGS....24
3.13.6.5.1 FIRE PROTECTION....25
3.13.6.5.2 ALARM TYPE....26
3.13.6.5.3 DELAY....26
3.13.6.5.4 SHORT KEY....26
3.13.6.5.5 OTHER SETTINGS....27
3.13.6.6 EXCHANGE....28
3.14 SAVE CONFIGURATION....29
3.15 USER PERMISSIONS SETTINGS....30
3.16 FACTORY SETUP....30

4 FIRE ALARM REPEATERU....32

4.1 FRONT PANEL OF FIRE ALARM REPEATER.....32
4.2 ADDRESS SETTING.....33
4.3 STARTUP 33
4.4 FIRE ALARM 33
4.5 FAULT.....35
4.6 OTHER ALARM 35
4.7 RESET 35
4.8 MUTE.....35
4.9 SETUP DIMMER 36

5 INTERNAL CODE TABLE.....37

6 VDR PROTOCOL 39

ANNEX A.....40

1 DESCRIPTION

In order to protect the life and assurance on board, Brightsky company develop JB-QBC-BS10 fire alarm system. Addressable detector and modules are used in this system. If the detector find fire, the fire place can be easy to confirm from the fire alarm panel.

The fire alarm system is designed to meet all major marine and industrial requirements.

The fire alarm system is designed to meet MSC.1/Circ.1387 (revised guidelines for the approval of fixed water-based local application fire-fighting systems for use in category a machinery spaces) and can be used to automatically control the fixed water-based local application fire-fighting system.

This system can be easy to be operated . The fire alarm system is composed with the following parts: fire alarm controller, fire alarm repeater , addressable smoke detector, addressable heat detector, IR flame detector, manual call point, disable input device, isolator, input module and input/output module.

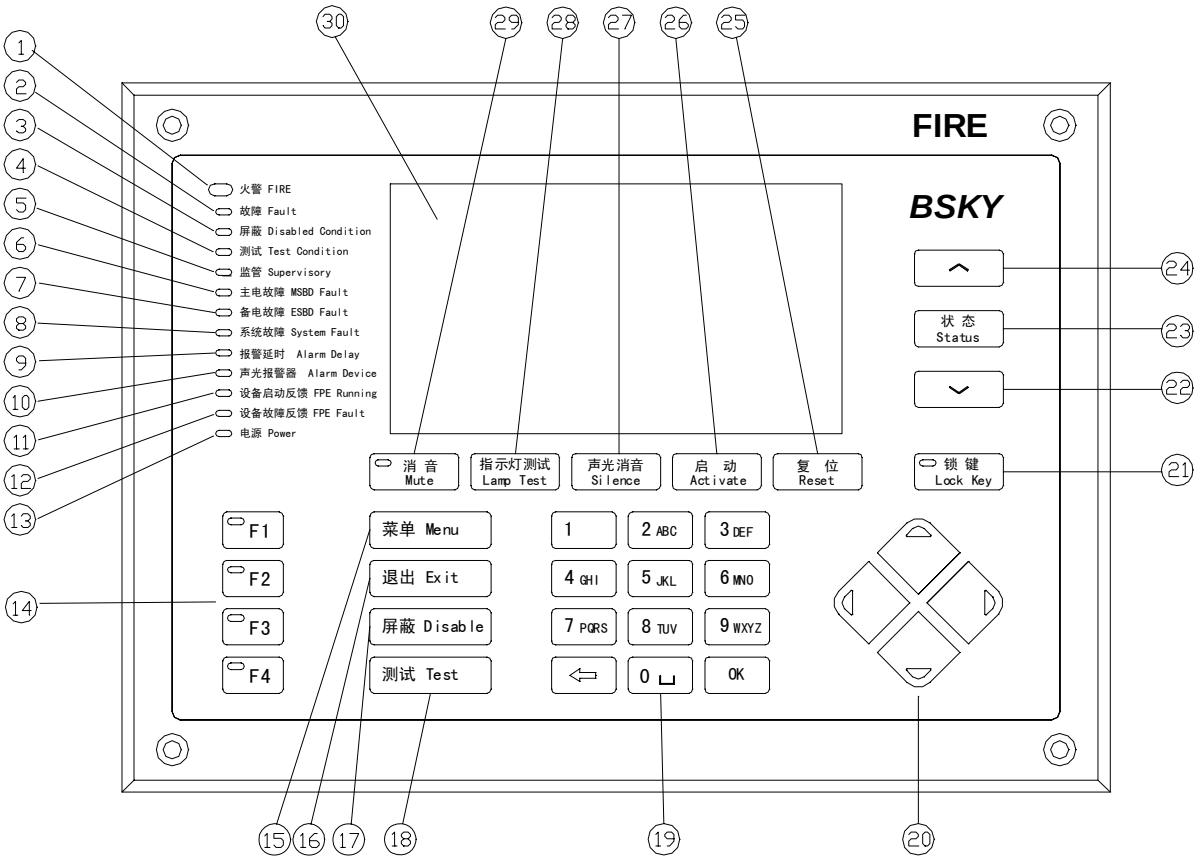
Max two loop boards can be used in the controller, each loop board supports 4 loop, maximum 160 points can be connected to each loop.

2 STANDARDS

- MSC.311（88）AMENDMENTS TO THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS(FSS CODE)
- CCS《Guidelines for Type Approval Test of Electric and Electronic Products》-2006
- CCS GD01 《Guidelines for Type Approval Test of Electric and Electronic Products》-2006
- EN54-2(1998, A1:2006) 《Fire detection and fire alarm systems-Part 2: Control and indicating equipment》
- EN54-4(1997, A1:2002,A2:2006) 《Fire detection and fire alarm systems-Part 4: Power supply equipment》
- EN54-5(2000, A1:2002) 《Fire detection and fire alarm systems-Part 5: Heat detectors-Point detectors》
- EN54-7(2000, A1:2002,A2:2006) 《Fire detection and fire alarm systems-Part 7: Smoke detectors-Point detectors using scattered light, transmitted light or ionization》
- EN54-10(2001, A1:2005) 《Fire detection and fire alarm systems-Part 10: Flame detectors-Point detectors》
- EN54-11(2001, A1:2005) 《Fire detection and fire alarm systems-Part 11: Manual call points》
- IEC60092-504(2001) 《Electrical installation in ships-Part 504:Special features-control and instrumentation》
- IEC60533(1999) 《Electrical and electronic installations in ships-Electromagnetic compatibility》
- MSC.1/Circ.1387(2010) (replace MSC/CIRC.913)
- DNV SfC 2.4《ENVIRONMENTAL TEST SPECIFICATION FOR INSTRUMENTATION AND AUTOMATION EQUIPMENT》

3 FIRE ALARM CONTROLLER

3.1 FRONT PANEL OF FIRE ALARM CONTROLLE



1) **Fire indicator** – flashing or steady in red color, the fire indicator is flashing to indicate that the current fire alarm is not confirmed. It turn to steady if the current alarm is confirmed by pressing *OK* key
2) **Fault indicator** – flashing or steady in yellow color. the fault lamp is flashing to indicate that the current fault alarm is not confirmed. It turn to steady if the current alarm is confirmed by pressing *OK* key
3) **Disabled Condition indicator** – steady in yellow color. When the system is in disabled condition, this indicator will be lit
4) **Test Condition indicator** – steady in yellow color. When some zones in the system is set to test condition, this indicator will be lit
5) **Supervisory indicator** - flashing or steady in red color. When the input module activated or input/output module received feedback signal, this indicator is flashing. It turn to steady if the current alarm is confirmed by pressing *OK* key.
6) **MSBD Fault indicator** - flashing or steady in yellow color. Indicator is lit when the main power missing.
7) **ESBD Fault indicator** - flashing or steady in yellow color. Indicator is lit when the emergency power missing.

8) **System Fault indicator** – flashing in yellow color. This indicator is lit when the system fault (EEPROM checksum error, CPU fault, and so on) occur
9) **Alarm delay indicator** – flashing in yellow color. When the system is in alarm delay status, the indicator is flashing and it will be shut down if the alarm delay count down to zero
10) **Alarm device indicator** – flashing or steady in yellow color. If the line connected to the BELL1 is broken, this indicator is flashing. If the BELL is disabled, it is steady..
11) **FPE Running indicator** – flashing or steady in red color. This indicator is used to Indicate the running state of fire protection equipment, when some fire extinguishing zones are started, it is flashing and it is changed to steady when the controller receive the starting feedback signal.
12) **FPE Fault indicator** –flashing or steady in yellow color. This indicator is used to Indicate the fault state of fire protection equipment, when the fire protection equipment is in fault state and send fault signal to this system, the indicator is flashing. pressing *OK* key to confirm it.
13) **Power indicator –** steady in green color. when the system power on, it is lit.
14) **F1-F4 keys and indicator** - when press the key, the equipment that controlled by these keys will be started, and the related indicators will be lit steady in yellow color.
15) **Menu key** - press it when you want to test or configure the system or check the history records.
16) **Exit key** - it is used to exit the current menu and back to upper menu.
17) **Disable key** - press it when you want to disable some device in the system.
18) **Test key** - press it to set some zone to test condition.
19) **Alpha-numbering key** - it is used to input, confirm or delete letters and numbers.
20) **ARROW key -** it is used for page turning over or change the cursor's position.
21) **Lock key** - it is used to lock or unlock the keyboard.
22) **Down-page key** - press it to check next alarm message
23) **Status key -** use to change the alarm status display (fire alarm, activities, activate ,fault, disable or test)
24) **Up-page key** - press it to check last alarm message.
25) **Reset key** - use to reset the system, disabled condition is not affected by this operation.
26) **Activate key** - press it to activate or close some device.
27) **Silence key** - press it to turn off the bell when the bell is started, press again to restart the bell.
28) **Lamp test key –** use to test all indicators on the fire alarm control panel, all the indicator will be lit if this key pressed.
29) **Mute key -** it is used to stop or restart the internal buzz in the fire alarm control panel when the internal buzz is started.
30) **LCD display** – all messages are displayed in this area.

3.2 OPERATIONAL FUNCTION LIST AND ACCESS LEVEL

Menu tree of fire alarm control panel:

Lock (2)
Silence (2)
Reset (2)
Activate (2B)
Disable (2B)
- **Disable list**
- **New disable**
- **Remove all disable**

Test (2B)
- **Test zone list**
- **New test zone**
- **Remove all test zone**

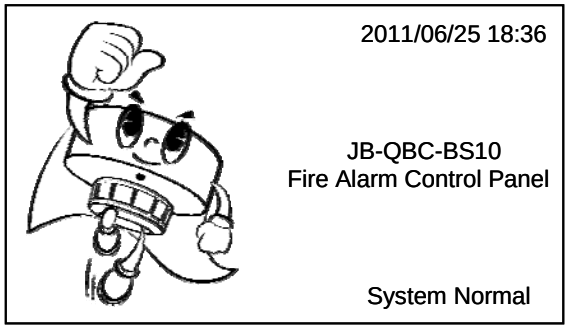
Menu (2)
- **Date & Time (2)**
- **History (2)**
- **Service (3)**
  - **Detector information**
  - **Zone information**
  - **Logic**
  - **Workspace**
  - **Settings**
    - **Fire protection**
    - **Alarm type**
    - **Delay**
    - **Short key**
    - **Other settings**
  - **Exchange**
    - **Download configuration from USB**
    - **Upload configuration to USB**
    - **Download configuration to board**
  - **User password**
- **System version (2)**
- **Detector test (2)**
  - **Write detector address**
  - **Read detector address**
  - **Test detector analogy**
  - **Test loop detector**
- **Setup dimmer (2)**

※Remark:

- The number in the bracket after the item is access level.

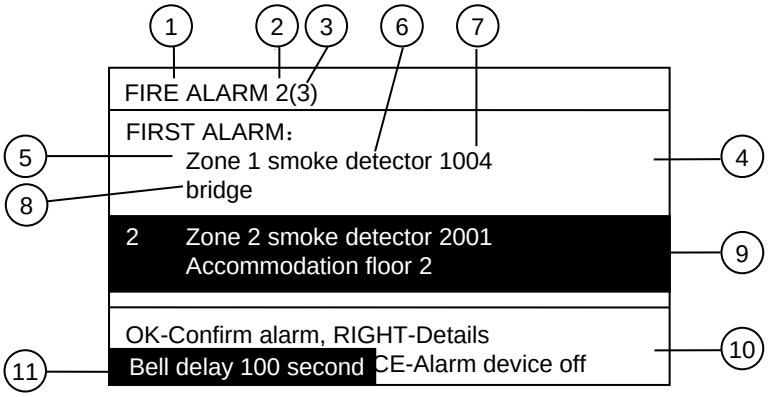
3.3 STARTUP

Turn on the power, and the controller will be power on and enter standby status, see the below display of the LCD:



3.4 FIRE ALARM

When the thickness of smoke or temperature are larger than the alarm limit, or press the manual call point manually, the control panel will be in fire alarm status, and the LCD display will show as the below:



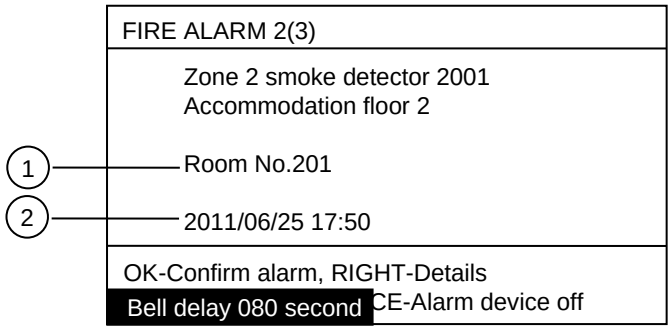
- Is the type of the alarm status, for example, the above is the fire alarm.
- The fire alarm information's number. For example, the above is the second fire alarm message.
- The total alarm message, the above means 3 fire alarm message in this system.
- First fire alarm information display zone. It is remain although the ***up page*** or ***down page*** key pressed.
- Zone in which first fire alarm happens, For example, the above zone is zone 1.
- The device type that send out first fire alarm , for example the above picture is smoke detector.
- Address of the first fire alarm device, the above address is 004 in loop 1.
- The first fire alarm zone's description, for example, the above is "bridge".
- Fire alarm information display zone, for example, the above picture shows the second piece of fire alarm information, and the message is the similar with first fire alarm information, press ***up page*** or ***down page*** key to check last or next fire alarm message.
- Operation help message display zone.
- Alarm delay count down display zone.

After fire alarm happens, besides the above fire alarm information was shown on LCD, the controller will act as below:

① Give fire alarm sound and illuminate the fire indicator on the panel.
② Fire alarm output relay FIRE1-FIRE6 output.
③ When bell begins count down, the Alarm Delay indicator is flashing, after count down is finished, the Alarm Delay will be illuminated, and the bell is started. if the fire alarm is from the manual call point, it is started without delay.
④ If Association（Other settings->Association auto status is in automatic status, and the association logic of logic setting will be carried out.
⑤ Put the time and place and other information of fire alarm to history record.
⑥ If a fire repeater （Other settings->Repeater panel sum）is connected, it will send fire alarm information directly to the fire repeater.
⑦ If a VDR（Other settings->VDR using）is connected, it will send fire alarm information to VDR.

In fire alarm status, the below operations can be achieved:

① Press *OK* key to confirm fire alarm; after confirmation, when focus frame moves to this piece of fire alarm information, the fire indicator is illuminated, or else it is flashing.
② Press *Mute* key to turn off the inside sound of the controller; press mute key again, if there are some fire alarm have not been confirmed yet, the inside sound will be restart. If you set delay restart（Delay->Mute restart delay, after you turn off the inside sound, if there are fire alarm that have not been confirmed, the controller will give alarm sound after the delay time.
③ Press *Silence* key, if the bell is in start status, then the bell is turned off, if it is in count down status, the counting down is stopped. if you press silence key again, if there are some fire alarm has not been confirmed, the bell will be restart. Beside this, if you set the silence delay restart （Delay->Silence restart delay, if after the delay time, there are some fire alarm have not confirmed, the bell will be restart.
④ Press *right-arrow* to check the detailed fire alarm information as below:



- The place where the fire alarm happens, that is the place of the detector, the above picture is "Room No.201".
- Time when fire alarm happens, the time shown on the above picture is 17:50,June 25,2011.

Press *left-arrow* key to back to the main fire alarm interface.

⑤ Press *up-page* or *down-page* to check the previous or next fire alarm information.
⑥ Press *Status* key to check other status information (event, activate, fault, disable, test and so on.) see the below illustration.

STATUS
1 Fire alarm (003) 2 Event (000) 3 Activate (000) 4 Fault (000) 5 Disable (000) 6 Test (000)
Select a menu with 1-6

⑦ Note: if fire alarm messages are suppressed to display another type's alarm message, ,the controller will automatically back to the fire alarm display status without any operating in 30 seconds.

3.5 FAULT

When in the below situation, the controller will enter fault status.

1.When the wire that connect the controller and detectors is open-circuit or short-circuit; or the disconnect between the detector and bases, or the detector was damaged so that the monitoring between the detector and controller is abnormal.

2.The wire connect the controller and fire repeater is open circuit or short-circuit, which cause the abnormal communication.

3.Line broken between the controller and the bell.

4.Main power supply, emergency power supply,DC24V,charging fault, battery low voltage or disconnection, earth fault.

5.MAG. Door hold line disconnect.

6.Wrong device type.

7.Device not included in the configuration.

8.Flash checksum error.

9.EEPROM checksum error.

10.The communication fault that caused by the open-circuit, short-circuit between Control panel and interface board

11.Abnormal communication that caused by the open-circuit or short-circuit between Interface board and Loop board.

12.DC24V fault for fire alarm control panel or fire alarm repeater.

In fault status, the LCD displays as below:

FAULT 1(1)
1 ZONE 2 smoke detector 2001 Accommodation floor 2
OK-Confirm alarm, RIGHT-Details MUTE-Buzz off, SILENCE-Alarm device off

After fault happens, besides the fault information in LCD, the controller will carry out below actions:

① Give fault sound, and the fault indicator on the panel is illuminated.
② FAULT1-FAULT4 of the fault output relay will output. for some fault, system fault1,system fault2 will output as well, please see the detailed fault description list.
③ Put the time, address and other information of the fault to the history record.
④ If the system has a fire repeater, it will send fault information to fire repeater.
⑤ If the system has a VDR, it will send fault information to VDR as well.

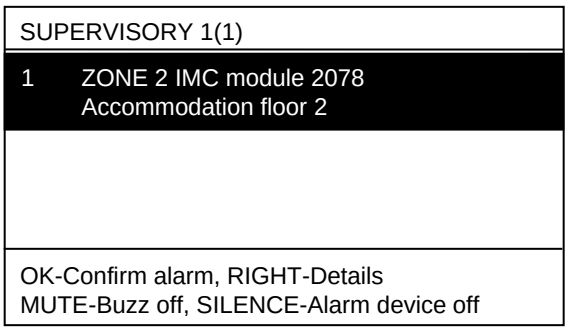
You can do the below operation on fault interface.

⑧ Press *OK* key to confirm the fault, after the fault information is confirmed, when the focus frame moves to this piece of fault information, the fault indicator will be illuminated, or else it is flashing.
⑨ Press *Mute* key to turn off the inside sound of the controller.
⑩ Press *right-arrow* key to check the detailed fault information.
⑪ Press *up-page* or *down-page* key to check previous or next fault information.
⑫ Press *Status* key to check other status information.

Except system fault, all other fault can be reset automatically after fault signals is cleared, you can only reset manually for system fault.

3.6 SUPERVISORY

Supervisory signal is the input signals except fire signals and fault signals, such as the alarm of input modules, feedback of input/output modules and so on. when controller receives this signals, it will enter the supervisory status, and the LCD displays as below:



After enter supervisory status, except the supervisory information shown on the LCD, the controller will act as below:

① Illuminate the supervisory indicator on the panel.
② If the association is in automatic status, it will carry out the associate logic of the logic settings.
③ Put the time, address and other information of supervisory to history record.
④ If the system has a fire repeater, it will send supervisory information to fire repeater.
⑤ If the system has a VDR, it will send the supervisory information to VDR.

On supervisory interface, you can do the below operations:

① Press *OK* key to confirm the supervisory, after supervisory is confirmed, when focus frame moves to this piece of supervisory information, and the supervisory indicator will be

illuminated, or else it is flashing.

② Press *right-arrow* to check detailed supervisory information.

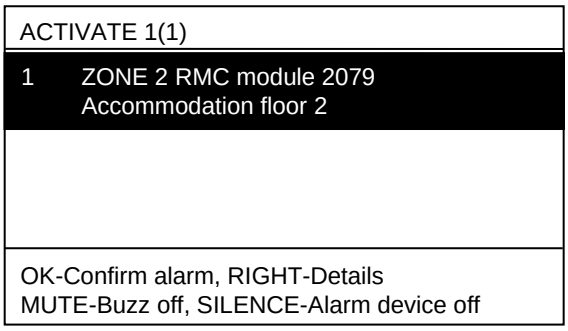
③ Press *up-page* or *down-page* to check previous or next supervisory information.

④ Press *Status* key to check other status information.

After supervisory signals are cleared, the supervisory will automatically reset.

3.7 ACTIVATE

When module is in action, or fire extinguishing zone is started, or the bell is started, the controller will display below information, and the interface is as below:



When an activate information happens, beside the displaying on LCD, the controller will act as below:

① Put the time, address and other information of activate to history record.

② When the system has a fire repeater, it will send activate information to fire repeater.

③ When the system has a VDR, it will send Activate information to VDR.

On activate interface, you can do the below operation:

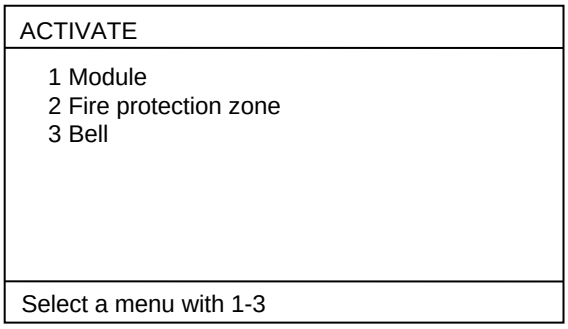
① Press *right-arrow* to check detailed activate information.

② Press *up-page* and *down-page* to check previous or next Activate information.

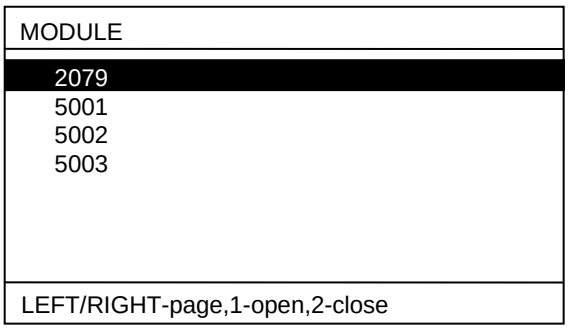
③ Press *Status* key to check other status information.

④ Press *Reset* key to turn of all the started equipment.

Output modules, fire extinguishing protection zone, bells and other equipment can be started automatically when fire alarm happens, besides this, they can also be started by using the menu on the board manually.



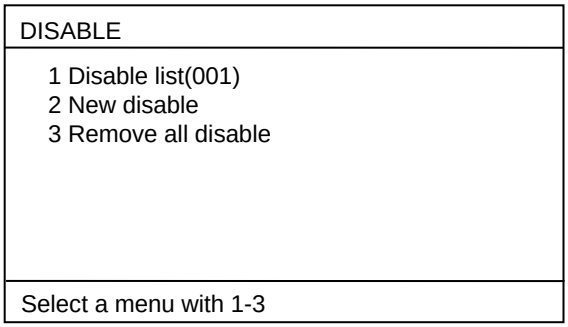
Choose the activate type, for example, if you choose module, the interface will show the present registered modules list.



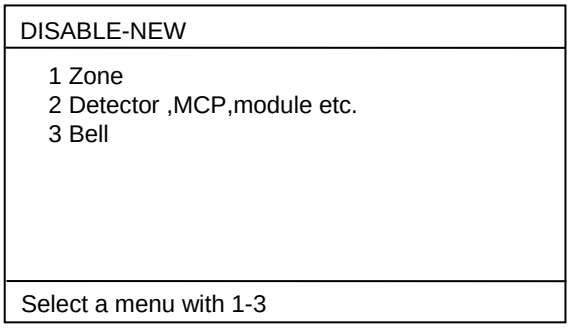
After activate, the activated module information will be shown on the activate interface. if you turn off ,the module information will be cleared from the activate interface.

3.8 DISABLE

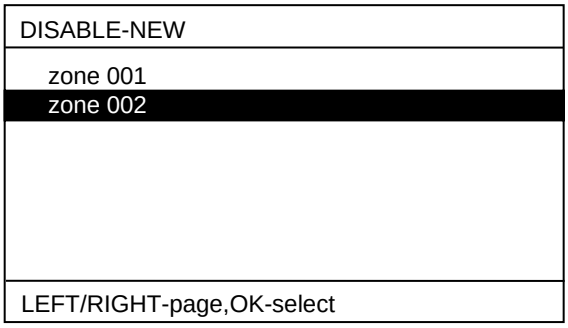
The controller has disable function, press *Disable* key to enter the disable function, the interface is shown as below:



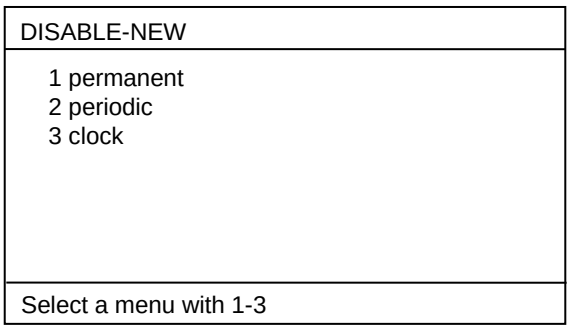
Choose "New disable" to set the new disable, firstly, you should choose the equipment type, please see below picture.



There are three kinds of equipment type, zone, bell and detectors. after you have chosen the equipment type, the controller will give the equipment list of this type of equipment, if you choose disable zone, the interface will show the below information.

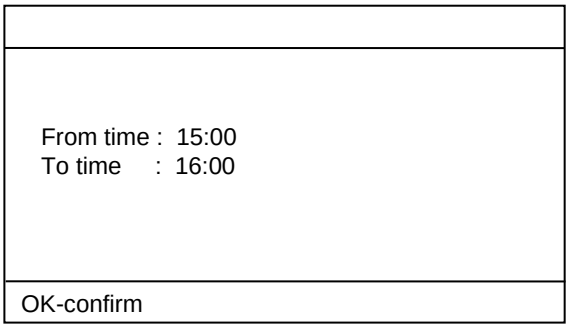


After you chose the zone that you want to disable, then you chose the time attribute, please see the below picture:

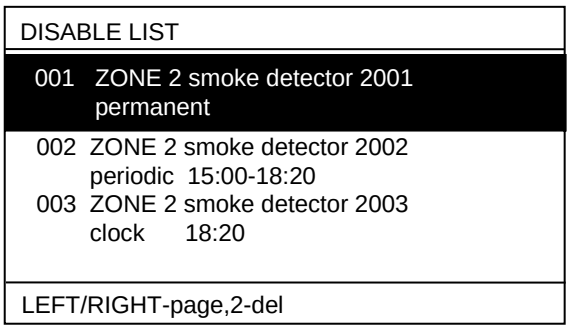


"Permanent" means this equipment will be disabled forever and will be disabled immediately.

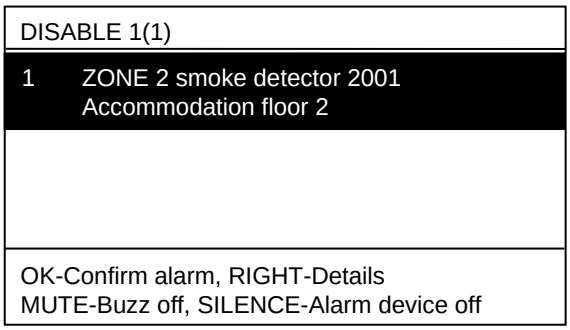
"Periodic" means this equipment is disabled periodically, you can choose a period in a day when the equipment is disables, after this period, it will be normal. please see the below:



"Clock" means from now on to the time that you have set, the equipment is disable, and the effect is only for one time. after the disable function is set, they will be shown on "disable list".



Note: this interface only shows the disable equipment that you have set. we have some disable which are not come into effect immediately (for periodic disable") as well. you can inquire the effective disable by pressing status key.in disable menu. see below picture.



For the effective Disable information, beside it is shown on LCD, the controller can also act as below:

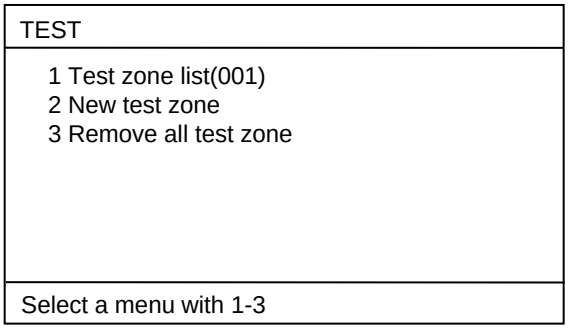
① Illuminate the disable indicator on the panel.
② Put the time when disable happens and the address to the history record.
③ If the system has a fire repeater, it will send disable information to fire repeater.
④ If the system has a VDR, it will send disable information to VDR.

On disable interface, you can also to the below operation:

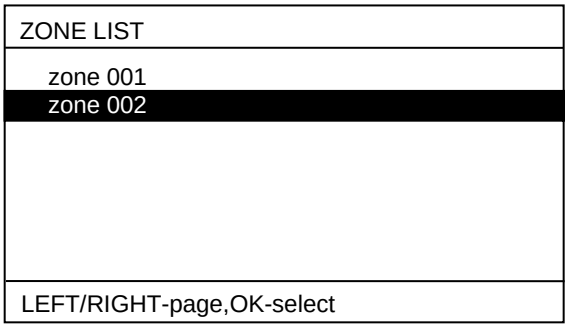
① Press *right-arrow* to check the detailed disable information.
② Press *up-page* key or *down-page* to check previous or next disable information.
③ Press *Status* key to check other status information.

3.9 TEST

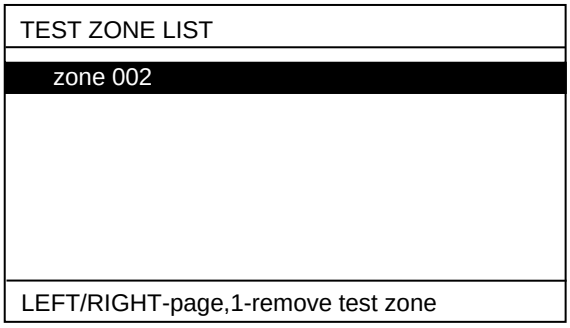
If you just want to test the alarm function of detectors and do not want to start the alarm bell, output fire relay and the logic operation, you can use test function. set the zone in Test function, press *Test* key to set the set, please see the below picture:



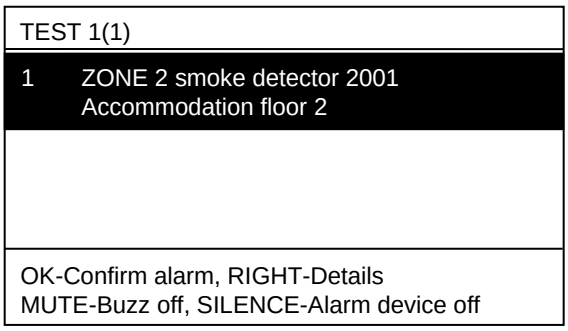
Choose "New Test Zone" to set the zone that you want to test, for example:



For the test zone that you have chosen, you can see them from "test zone list", please see below:



For the zone that is set test, the Test indicator is illuminated; if there is a detector in this zone, the controller will enter "test" alarm status, the display is shown as below:



Besides the alarm information of the test zone, the controller will act as below:

① Put the time address and other information of "test" to the history record.

② It the system is connected with a fire repeater, it will send the "test" alarm information to fire repeater.

③ If the system has a VDR, it will send "test" alarm information to VDR.

On "test" interface, you can do the below operation:

① Press *right-arrow* to check the detailed "test" information.

② Press *up-page* or *down-page* to check previous or next alarm information.

③ Press *Status* key to check other status information.

Test alarm can automatically reset. for example, after all smokes scattered to the air, the test alarm status of smoke detector can automatically reset.

STATUS PRIORITY:

The control panel follows the turn of Fire, Supervisory, Activate, Fault, Disable, Test to show grade from high to low arrangement information, high grade status display takes precedence. That is to say, when in low grade interface, if there is high grading information coming, then the interface will be immediately switched to high grade display status.

3.10 RESET

If there is a fire, fault, supervisory happens, press *Reset* key to reset this status, if the elements that caused this status still existing, this status will happens again after reset. for example, if a smoke detector alarms, if you press the reset when the smoke still existing in the smoke detector, the controller will alarm again.

When "Activate" happens, press reset key to turn off all the started equipment.

Disable is not affected by reset.

When the controller is reset, the "test zone" that you set will be cleared.

3.11 MUTE/SILENCE

The controller can send out two type sounds: continuous sound or fire alarm or supervisory alarm.

When in fire alarm and supervisory status, it will give a continuous buzzing.

In fault status, it will give a interrupted buzzing.

The sound of fire and supervisory is prior to fault sound. Even if a fault happens, once the fire or supervisory comes, the sound will change to fire supervisory sound immediately. If controller is in mute status, it will the give the sounds that comes to it.

It the inside sound is open, press *Mute* key you will turn off the inside sound; if you press the *Mute* key again, if there is unconfirmed fire alarm in the system, the inside sound will be restarted. if you have set the "Mute restart delay"（Delay->Mute restart delay）and you have turn off the inside sound, after the delay time, the controller will give alarm sound if the system has unconfirmed fire alarm.

If the bell is in "Activate" status, press *Silence* key to turn off the bell, if it is under countdown stage, then the countdown will be stopped; after you press *Silence* key again, the bell will be restarted again if the system has unconfirmed fire alarm. Besides this, if you have set" Silence restart delay"（Delay->Silence restart delay, after the delay time, the bell will be restarted again if unconfirmed fire alarm is existing.

3.12 LOCK/UNLOCK

The control panel can be locked automatically to avoid unauthorized operation under the below two kind of situations:

① There is no any operation within 30 seconds.

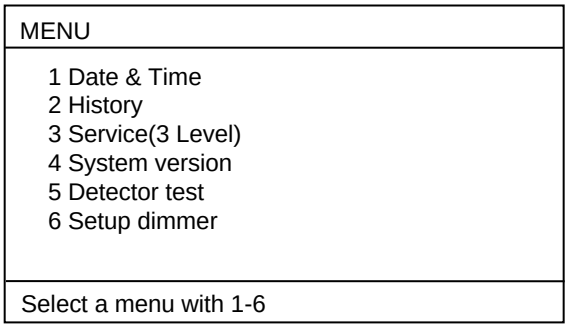
② Press lock key.

After locked, you can only clear inside sound or check fire alarm information, and the lock indicator is illuminated in this situation.

Press *Lock* key and enter the password, then you can unlock the controller.

3.13 MENU

Press menu key to enter the main menu, see the below picture



When the interface is on any grade of the menu:

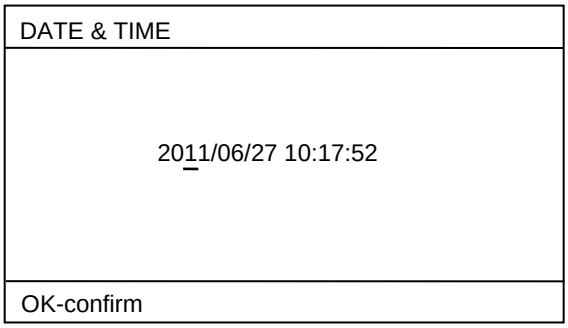
① When there is a fire, if there is no any operation on the controller after 30 seconds ,the interface will switch to the latest fire interface automatically.

② When detect the fire, the controller will immediately enter the fire status, and the interface will immediately come to fire alarm interface as well.

③ When there is no any fire alarm happens, if there is no any operation on the controller after 30 seconds, it will exit from Menu automatically.

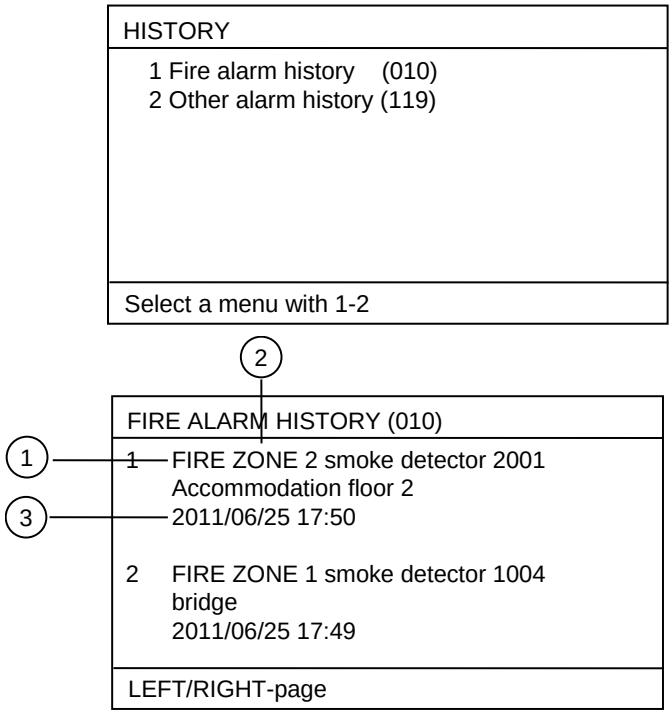
3.13.1 ADJUST TIME

From Menu->Date & Time you can adjust the time of the controller, and the format of the time is "year/month/day hour: minute: second".



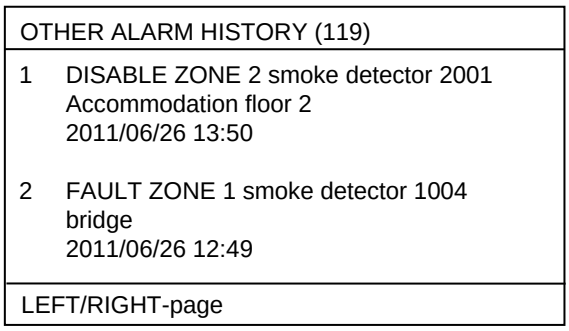
3.13.2 HISTORY RECORD

From Menu->history you can inquire more fire alarm history, the recorded type of controller is Fire、Supervisory、Activate、Fault、Disable、Test. The controller can record 999 pieces of fire information and 999 pieces of other information. The interface of history record is shown as below:



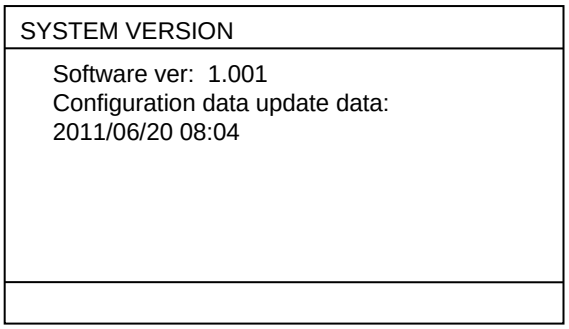
※Remarks：

- The type of history record, the above is fire.
- The zones in which the fire alarm happens, the above is zone2.
- The time when the alarm happens, the above is 17:50,June 25,2011.



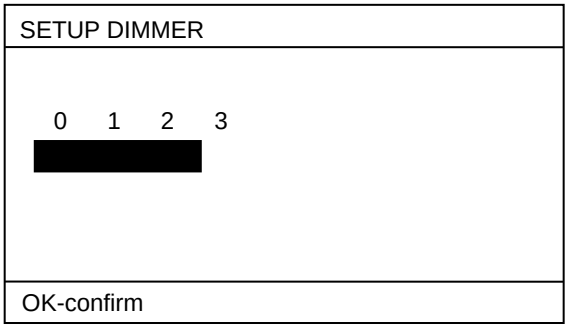
3.13.3 VERSION INFORMATION

From Menu->System version you can inquire the software version of the controller and the update date of the accessory equipment. See the below picture:



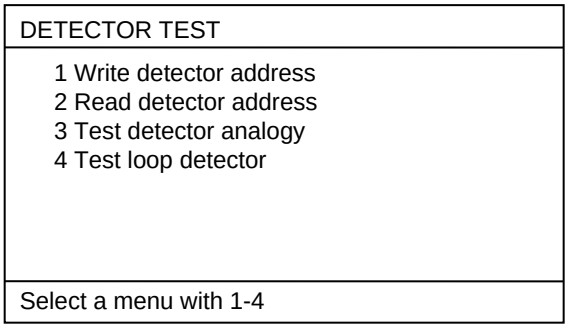
3.13.4 SETUP DIMMER

From Menu->Setup dimmer, you can set the lightness of indicator and the LCD backlight. there are 4 grades of lightness, "0" is the darkest,"3" is the brightest.



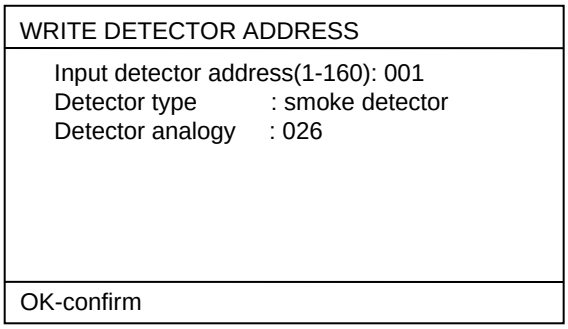
3.13.5 DETECTOR TEST

You can write the address(Programming) ,read the address, or read the Analog value through "Menu->Detector Test", you can also test the running status of all detectors in one loop. See the below:



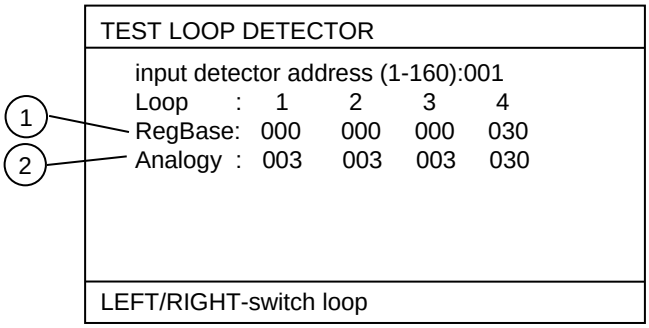
The “Write detector address”，“Read detector address”，“Test detector analogy” of the “Detector test” function is only for the detectors that connected to the "BUS" terminals of "fire alarm control panel. you can connect one detector for one time.

The interface to write the address function of detectors is as below:



“Detector analogy” is a non-dimensional value, and the range of the value is 15-35 in normal status. If the value is more than 50,it will alarm, if it is less than 15,it is fault.

“Test loop detector” is to test loop that connected to loop board. please see the below:



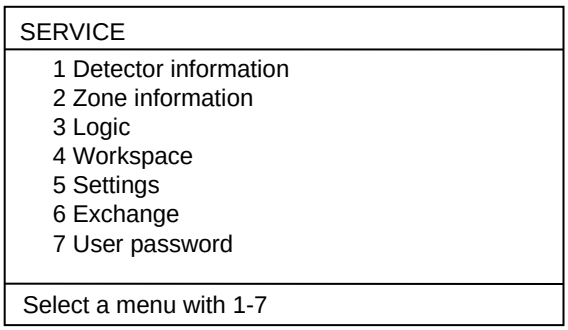
※Remarks：

- Is the analog value of the registered detectors, please reference "Detector information"
- Is the analog value of the present detector.

Press *left-arrow/right-arrow* to switch the loop, press *down-arrow/up-arrow* to increase or decrease the present address of detectors.

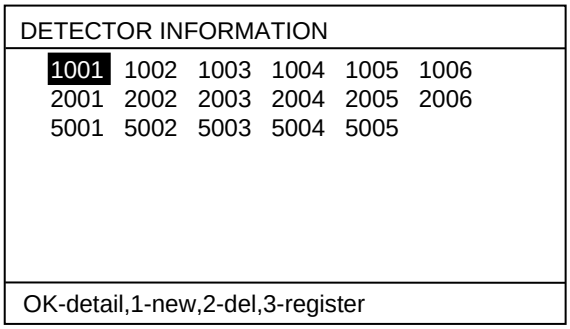
3.13.6 SERVICE

This item is used to configure the parameter for the system, following is the picture for it:

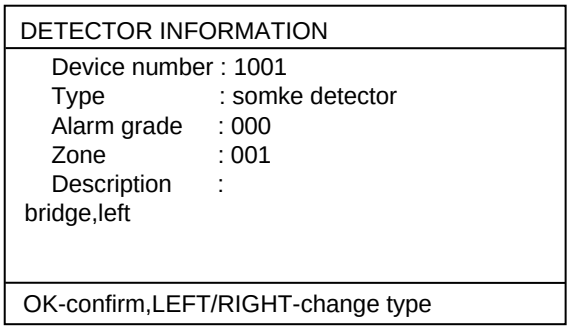


3.13.6.1 DETECTOR INFORMATION

Detector information function is to inquire, register or edit the equipment information. you can also register the equipment manually or automatically, please see the below picture.



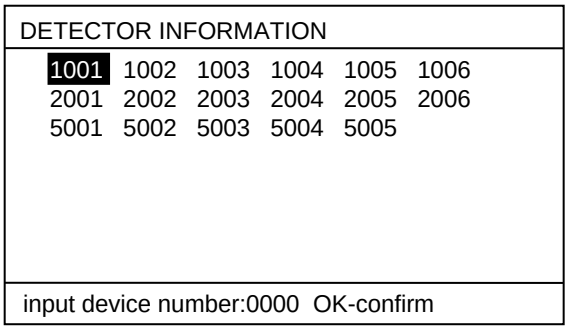
Press *OK* key to inquire and edit the equipment information, please see the below:



※Remarks:

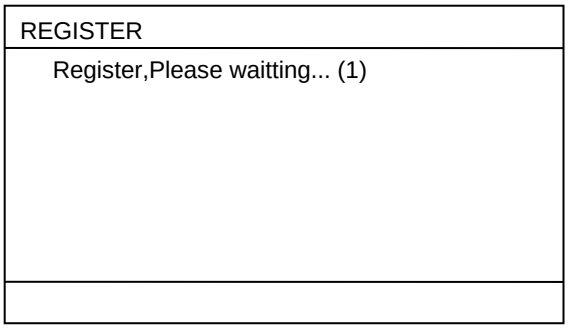
- "Device number" is the equipment number, for example, the above is number 1 of loop 1.
- "Type' is equipment type, for example, the above is smoke detector.
- "Zone" is the zone number if the equipment, for example the above No.:1001 detector belongs to zone 1.
- "Description" is the description to the place where the equipment is installed, for example, the above means that No.:1001 detector is installed in "bridge, left". There are 40 characters maximally.

Press numbering key *1* to register the new equipment manually.



Press numbering key *2* to delete the equipment that you have chosen from the registered equipment.

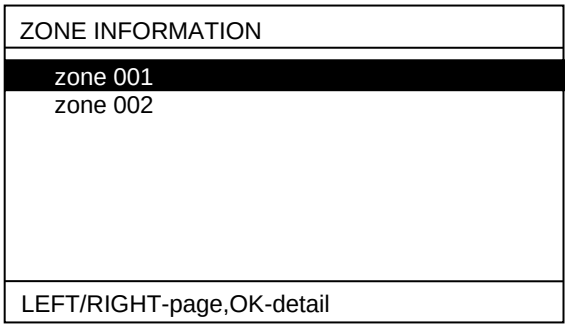
Press numbering key *3* to register the equipment manually, please see the below:



The controller will automatically scan the equipment that connected to the bus and record the equipment type when in automatic register status. when the system is installed for the first time, you can inquire the quantity of devices, address and type of the installed devices throng checking automatic register function, which make it more simple.

3.13.6.2 ZONE INFORMATION

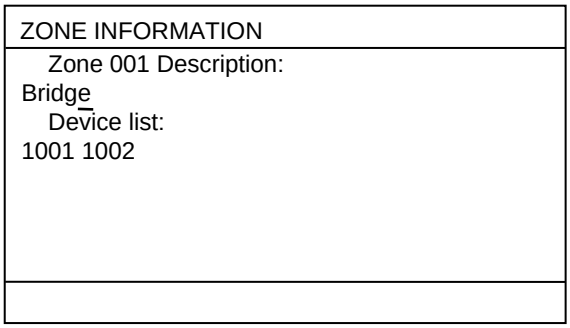
Zone information function is used to inquire and edit the present zone information of the system, please see the below:



※Remarks:：

- The zone list here is the zone number you set for the detectors in "detector information", you can not add new zone here.

Press *OK* key to inquire and edit the zone information that you have chosen, please see the below:

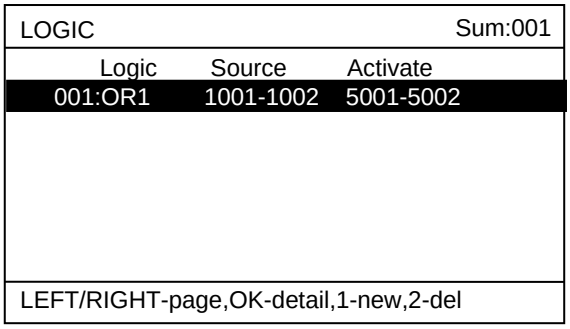


※Remarks：

- "Zone description" can has maximally 40 characters.
- "Device list" is an format that the controller generated automatically according to the zone number of the "detector information.

3.13.6.3 LOGIC

Logic function is used to set the controlling functions that the controller has to carry out after the fire alarm or supervisory happens.

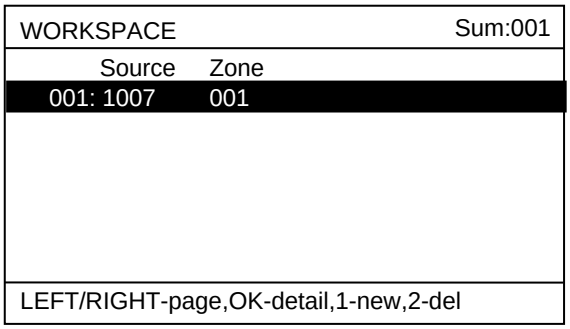


※Remarks：

- There are three types if logic, OR1,OR2,AND.
- OR1 means if any detector give alarm in "source" range, then all the equipment in " Activate" will start.
- OR2 means if any two of the detector give alarm, then all the equipment of "Activate" will be started.
- AND means if all the detectors of "source" range give alarms, then all the equipment of "Activate" will be started.
- The equipment of "Activate" are usually input or output modules.
- You can set maximally 150 pieces of LOGIC.
- In "Menu->Service->Settings->Other->Association auto status", only it is automatic status, the logic setting can be carried out.

3.13.6.4 WORKSPACE

WORKSPACE function is used to isolate one zone quickly, please see the below:



※Remarks：

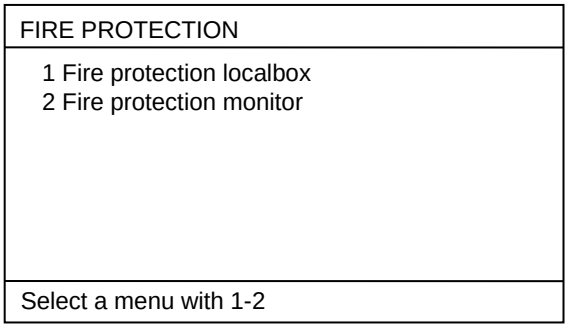
- If the equipment of "Source" has supervisory, the zone of "zone" will be isolated, please see the above. If module 1007 input modules has supervisory alarm, then zone 1 is isolated.
- You can set maximally 20 pieces of WORKSPACE.

3.13.6.5 SETTINGS

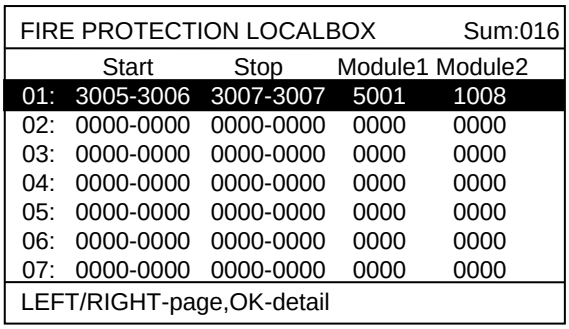
This item is used to configure the system running parameter.

3.13.6.5.1 FIRE PROTECTION

Fire protection is used to set the parameter of protection zone, please see the below:



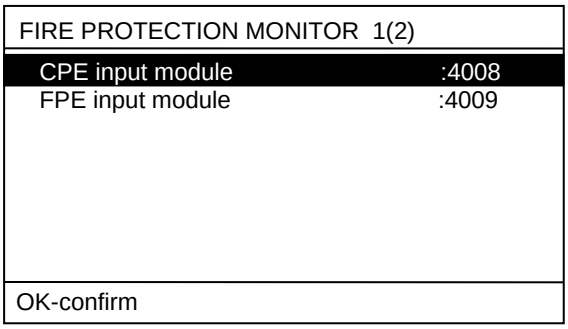
Fire protection localbox is used to protect the localbox of the fire extinguishing protection area:



※Remarks:

- Several local operating boxes can be in one zone, the places of “start” and “stop” are address range.
- ‘Module1’ is fire sounder, for example, the above picture means the fire sounder address of first fire protection area is 5001.
- ‘module2’is the output module that connected to Solenoid valve, the above picture means the address of output module that connected to solenoid valve of first protection area is 1008.
- You can set localbox information for maximally 16 fire protection zones. 10 fire protection output zones are in one fire protection control board. If the fire protection zone number is larger than 10, please add input/output module.

Fire protection monitor is used to set the address f input modules which is used to monitor pump status, see the below:

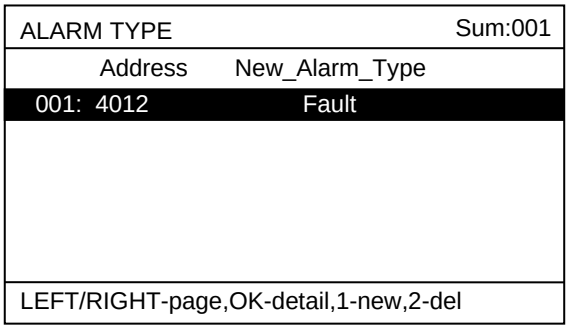


※Remarks:

- ‘CPE input module’ is the input module that used to detect the running status of protection area.
- ‘FPE input module’ is the input module that used to detect the fault status of pump.

3.13.6.5.2 ALARM TYPE

Alarm type is used to change the alarm type of input modules, in general, the input module alarm is supervisory, but in some cases, the alarm of input module should be "fault" as well, for example, we use the input module to monitor the fault status of pump, if this input module alarms, it is better to show the alarm as" fault" because it is indicate that the pump is in fault.
The interface of alarm type is shown as below:



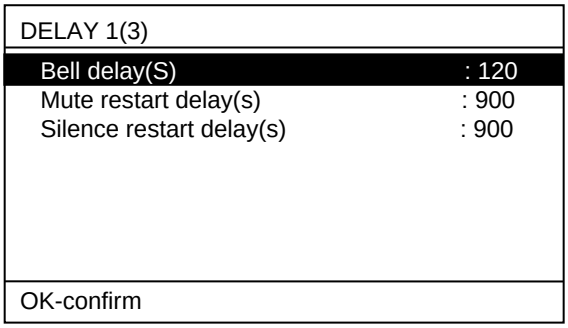
※Remarks:

- For the above picture, when there is there is signals input to number 4012 signal input modules, the alarm signals will be taken as fault. You can set maximally 100 pieces of alarm type.

For the equipment that needs to change the alarm type, you can input the changed descriptions directly in "description" of "detector information", for example, the above picture shows that module 4012 has detected that the pump is in "fault", then it can be described as " pump fault", when module 4012 alarms," pump fault (Ext-In)" will be shown on the "description" place of fault. if module 4012 itself has a problem(for example, disconnection),then " pump fault" will be shown on the "fault".

3.13.6.5.3 DELAY

Delay is used to set delay functions, see the below:



※Remarks:

- ‘Bell delay’ is the delayed time of bell started after fire alarm, usually it is 120 seconds.
- ‘Mute restart delay’ is after the mute of the controller, if there is unconfirmed fire alarm, and the inside sound will be restarted after some time, the above is 900 seconds.
- ‘Silence restart delay’ is after the silence of the bell, if there is some unconfirmed fire alarm, the bell will be restarted after some time, the above is 900 seconds.

3.13.6.5.4 SHORT KEY

Short key is used to set the output modules that corresponding to F1-F4 on the panel.

SHORT KEY
Key F1: 5001 0000 0000 0000 0000
Key F2: 0000 0000 0000 0000 0000
Key F3: 0000 0000 0000 0000 0000
Key F4: 0000 0000 0000 0000 0000
OK-confirm

※Remarks:

•Each key corresponds to the five modules address, press the key to start or stop the fire modules at the same time.

3.13.6.5.5 OTHER SETTINGS

Other settings is used to control some important parameters that on running ,such as association status, power test, fire repeater quantities and so on, see the below:

OTHER SETTINGS 1(18)	
Association auto status	: yes
MSBD fault check	: yes
ESBD fault check	: yes
Ship's DC24V fault check	: yes
Battery fault check	: yes
MAG.Door hold fault check	: yes
Bell fault check	: yes
Repeater panel sum	: 001
LEFT/RIGHT-page,Status-yes/no	

OTHER SETTINGS 9(18)	
Repeater panel fault check	: no
Water mist using	: no
Water mist panel fault check	: no
PA close	: no
Earth fault check	: yes
Earth grade	: 010
VDR using	: yes
VDR baudrate	: 4800
LEFT/RIGHT-page,Status-yes/no	

OTHER SETTINGS 17(18)	
Ext. power fault output	: all
Language	: ENG
LEFT/RIGHT-page,Status-yes/no	

※Remarks:

- ‘Association auto status’ is the association status of fire controller, if it is in automatic status, it will carry our logic in "Logic" when in fire alarm or supervisory.
- ‘MSBD fault check’ is to check whether the main power supply has fault or not.
- ‘ESBD fault check’ is to check whether the emergency power supply has fault or not.

- ‘Ship's DC24V fault check’ is to check whether the ship's DC24V has fault or not.
- ‘Battery fault check’ is to check whether the battery has charging fault or low voltage fault.
- ‘MAG.Door hold fault check’ is to check whether Magnetic door hold has disconnection fault.
- ‘Bell fault check’ is to check whether the bell has disconnection fault.
- ‘Repeater panel sum’ is the quantity of the repeaters that can be connected to this system, it is maximally 4 repeaters.
- ‘Repeater panel fault check’ is to check whether the fire repeater has connection fault.
- ‘Water mist using’ is for backup usage.
- ‘Water mist panel fault check’ is for backup usage.
- ‘PA Close’ means when there is a PA input, do you want to close the PA output, if yes, it PA output will be closed.
- ‘Earth fault check’ to check whether the controller has earth fault.
- ‘Earth grade is the sensitivity grade of earth grade, 1-10 grade, the smaller number, the higher sensitivity.
- ‘VDR using’ means whether a VDR is connected.
- ‘VDR baudrate’ is the baudrate that communicate with VDR, it has 4800 and 9600 types.
- ‘Ext. power fault output’ means when any of MSBD, ESBD, Ship's DC24V has fault,POW.FAU1,POW.FAU2 output or all of MSBD、ESBD、Ship's DC24V have fault, the POW.FAU1,POW.FAU2 will output.

3.13.6.6 EXCHANGE

Exchange is used to download ,upload the configuration data. see the below:

EXCHANGE
1 Download configuration from USB 2 Upload configuration to USB 3 Download configuration to board
Select a menu with 1-3

Download configuration from USB is to download the configuration data from USB memory, see the below:

DOWNLOAD CONFIGURATION FROM USB
Please select USB port : 1 or 2 Initialization USB1... Look BSKYBS10.CFG... Read data... Write data... Download to board? 1-yes,2-no

※Remarks:

- The name of configuration document is fixed as BSKYBS10.CFG.
- Configuration document content is all the content of service menu.

Upload configuration to USD is to upload the configuration document to USD memory, see the below:

UPLOAD CONFIGURATION TO USB
Please select USB port : 1 or 2 Initialization USB1... Read data from FLASH... Write file BSKYBS10.CFG to USB...

※Remarks:

- The configuration data document name is fixed as BSKYBS10.CFG.
- The content of configuration data document is all the content of service menu.

Download configuration to board is used to download the configuration data from panel to interface board, see the below:

DOWNLOAD CONFIGURATION To BOARD
Download configuration data to board, please waitting...(1) SUCCESS !

3.14 SAVE CONFIGURATION

If you have change the information of the service menu, when you exit the service menu, the controller will prompt whether you will save the correction, see the below:

SAVE CONFIGURATION
Configuration Data have changed, Please chose: 1 Save & Download to board 2 Save 3 Cancel
Select a menu with 1-3

In general, if you want to save the information you should chose ‘Save & Download to board’， so that the controller will save the configuration information to the panel and download to interface board as well. if you chose ‘Save’, the information will keep to panel, this may cause the data difference between the panel and the interface board, which may cause mistake as well. of course, users can choose ‘Download configuration to board’ in EXCHAGE to synchronize and update the data between the panel and interface board.

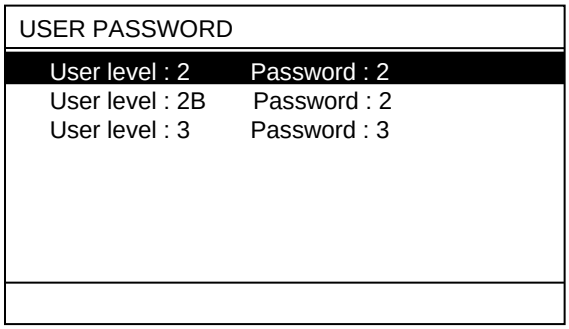
※Remarks:

- You can not do the function to the controller unless one minute later than you have download data to interface board.

3.15 USER PERMISSIONS SETTINGS

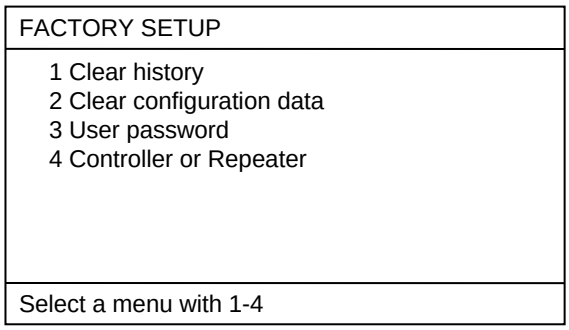
The controller has four levels of permission, that is 2,2B,3,4.each function has the lowest permission requirements, only the level is the same or higher than the required level, then you can do the operation.

The fourth level is for the service company, the permission password od 2.2B and 3 can be changed in "user password", see the below. for the level 4 operation, you have to connect the short jumper to of the printed board to"4 LEVEL", then start the machine, then input the password of level 4 to enter.



3.16 FACTORY SETUP

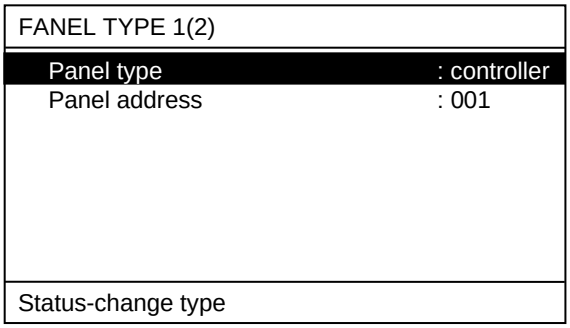
Factory setup is used to restore the factory settings, it need four grades of permission for this operation. see the below:



- ‘Clear history ’is used to clear fire alarm history.
- ‘Clear configuration data’ is used to clear configuration data.
- ‘User password’ is used to change different grades of permission password (except the forth permission).

REPEATER TYPE

This panel can be used both as controller and repeater. From "Factory setup->Controller or Repeater", you can set the working type, see the below:



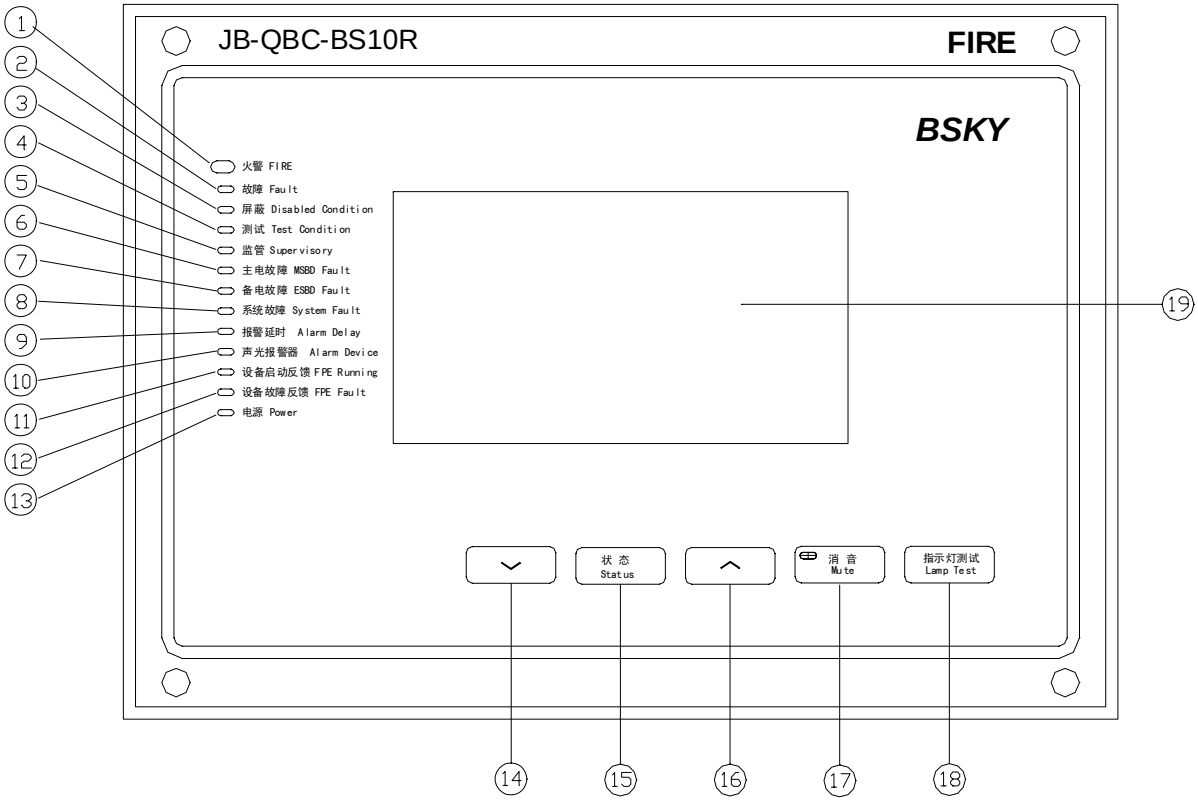
If the panel type is repeater, you have to set the address of the repeater.

The *Silence*, *Reset* key of the panel in "repeater type" has the same function with the keys on controller. you can through the repeater to make the bell silence and also reset the controller. the function is similar to repeater, and it keeps all the functions of the first grade permission of controller, meanwhile, it adds the silence and reset function of grade two permission, but it does not have the activate, disable and test functions of grade two permission and also all the functions of grade 3 permission.

4 FIRE ALARM REPEATERU

Fire alarm repeater is used to display all alarm messages occurred in the fire alarm system.

4.1 FRONT PANEL OF FIRE ALARM REPEATER



1) **Fire indicator** – flashing or steady in red color, the fire indicator is flashing to indicate that the current fire alarm is not confirmed. It turn to steady if the current alarm is confirmed by pressing *OK* key
2) **Fault indicator** – flashing or steady in yellow color. the fault lamp is flashing to indicate that the current fault alarm is not confirmed. It turn to steady if the current alarm is confirmed by pressing *OK* key
3) **Disabled Condition indicator** – steady in yellow color. When the system is in disabled condition, this indicator will be lit
4) **Test Condition indicator** – steady in yellow color. When some zones in the system is set to test condition, this indicator will be lit
5) **Supervisory indicator** - flashing or steady in red color. When the input module activated or input/output module received feedback signal, this indicator is flashing. It turn to steady if the current alarm is confirmed by pressing *OK* key.
6) **MSBD Fault indicator** - flashing or steady in yellow color. Indicator is lit when the main power missing.
7) **ESBD Fault indicator** - flashing or steady in yellow color. Indicator is lit when the emergency power missing.
8) **System Fault indicator** – flashing in yellow color. This indicator is lit when the system fault

(EEPROM checksum error, CPU fault, and so on) occur

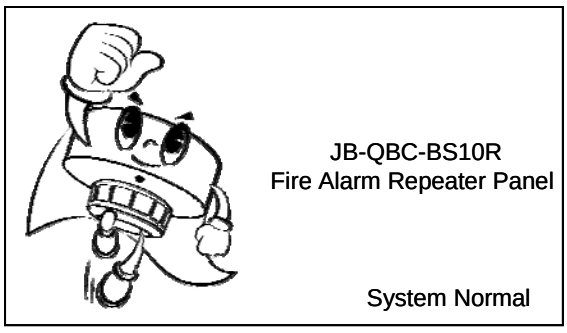
9) **Alarm delay indicator** – flashing in yellow color. When the system is in alarm delay status, the indicator is flashing and it will be shut down if the alarm delay count down to zero
10) **Alarm device indicator** – flashing or steady in yellow color. If the line connected to the BELL1 is broken, this indicator is flashing. If the BELL is disabled, it is steady..
11) **FPE Running indicator** – flashing or steady in red color. This indicator is used to Indicate the running state of fire protection equipment, when some fire extinguishing zones are started, it is flashing and it is changed to steady when the controller receive the starting feedback signal.
12) **FPE Fault indicator** –flashing or steady in yellow color. This indicator is used to Indicate the fault state of fire protection equipment, when the fire protection equipment is in fault state and send fault signal to this system, the indicator is flashing. pressing *OK* key to confirm it.
13) **Power indicator –** steady in green color. when the system power on, it is lit.
14) **Down-page key** - press it to check next alarm message
15) **Status key -** use to change the alarm status display (fire alarm, activities, activate ,fault, disable or test)
16) **Up-page key** - press it to check last alarm message.
17) **Mute key -** it is used to stop or restart the internal buzz in the fire alarm control panel when the internal buzz is started.
18) **Lamp test key –** use to test all indicators on the fire alarm control panel, all the indicator will be lit if this key pressed.
19) **LCD display** – all messages are displayed in this area

4.2 ADDRESS SETTING

You can use the repeater only after you have set the address, press the back cover, switch SW1 to the address that you want to set. according to the capacity of BS10,the system can connect four repeaters maximally, so the address should be from 1 to 4.

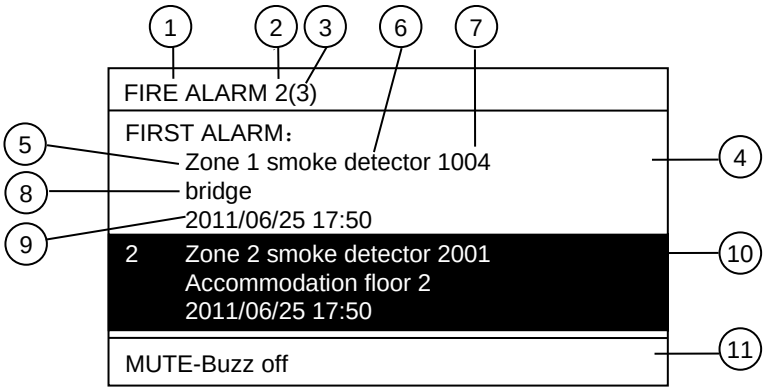
4.3 STARTUP

Turn on the power, and the repeater will be power on and enter to the standby status, and the LCD will display as the below:



4.4 FIRE ALARM

When repeater receive the fire alarm information that sent from the fire controller, it will enter the fire alarm status, and the LCD will display as below:



※Remarks:

- Is the interface type, for example, the above is the fire alarm interface.
- Shows the present focus frame is on which piece of fire alarm information. For example, the above shows that the focus frame is on the second piece of fire alarm information.
- Is the present total quantity of fire alarm information, the above picture shows that the present total quantity of fire alarm information is 3.
- The zone that the first fire alarm information displays.in this system, the first fire alarm information is shown on the fixed zone, no matter how to turn over the page, the first fire alarm information is always shown in this place.
- The zone where first fire alarm happens, the above is zone 1.
- The device type of the first fire alarm happens, the above is smoke detector.
- The address of the first fire alarm, the above is number 4 of loop1.
- The description to the zone of the first fire alarm, the above is "bridge"
- The time when the first fire alarm happens, the above is 17:50 of June 25,2011.
- The display zone of fire alarm information, the above is the second piece of fire alarm information, the format is the same as the first fire alarm information.
- Prompt information display zone.

When receive the fire alarm information, the repeater will illuminate the indicator on its panel, and give continuous buzzing.

The confirmation status of the control panel is the same as the repeater, if you have confirmed certain piece of fire alarm, when the focus frame moves to this piece of confirmed information of the repeater, the fire alarm indicator will be illuminated, or else it is flashing.(this function is the same for supervisory and fault as well).

You can do the below operation on fire alarm interface.

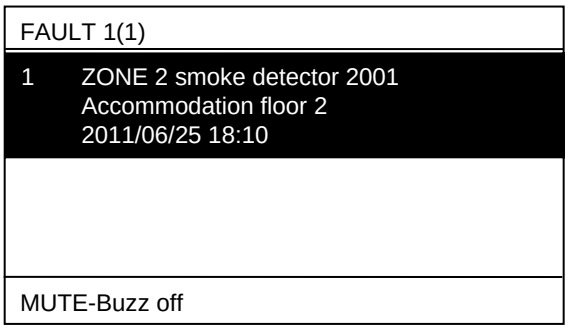
① Press *up-page* or *down-page* to check previous or next fire alarm information.

② Press *Mute* key to clear the inside sound of fire repeater. if there still unconfirmed fire alarm after mute, the inside sound will be restarted after you press *Mute* key again.

③ Press *Status* key to check other type of fire alarm information(such as supervisory, Activate, Fault, Disable, Test and so on.)

4.5 FAULT

When the fire repeater receive the fault information that sent from the fire controller, it will enter fault status, see the below:



When receive the fault information, the repeater will illuminate the fault indicator on its panel, and give a interval buzzing.

You can do the below operation on the fault interface:

① Press *up-page* or *down-page* to check previous or next fire alarm information.
② Press *Mute* key to clear the inside sound of fire repeater.
③ Press *Status* key to check other type of alarm information

4.6 OTHER ALARM

Repeater can receive SUPERVISORY,ACTIVATE,DISABLE,TEST and other information, the display format and the operation way is the same as that in fault status.

STATUS PRIORITY:

The repeater follows the turn of Fire、Supervisory、Activate、Fault、Disable、Test to show grade from high to low arrangement information, high grade status display takes precedence. That is to say, when in low grade interface, if there is high grading information coming, then the interface will be immediately switched to high grade display status.

Press status key to switch the interface board from the high to low grade.

If the interface of the repeater is not showing the latest fire alarm information and the system has a fire alarm, the repeater will switch to the latest fire alarm interface automatically if there is no any operation after 30 seconds.

4.7 RESET

The repeater can be reset only after it get the instruction from fire controller.

4.8 MUTE

The repeater can give two kind of sound from inside.

In fire alarm and supervisory, it will give a continuous buzzing.

In fault status, it will give a interrupted buzzing.

The sound of fire and supervisory is prior to the sound of fault, even if a fault happens, when a fire or supervisory signals come, the repeater will come to fire supervisory sound. if the repeater is in mute status, the sound is in accordance with the signals.

If the inside sound is open, press *Mute* key you will turn off the inside sound of repeater; if you press mute key again, if there is unconfirmed fire alarm in the system, the inside sound will be restarted. When in mute, the mute indicator will be illuminated.

4.9 SETUP DIMMER

Press *STATUS+UP PAGE* or *STATUS+DOWN PAGE* to adjust the lightness of indicator and the brightness of LCD backlight. there are four grade of lightness totally, 0 is the darkest and 3 is the brightest.

5 INTERNAL CODE TABLE

code	implication	prompt	remark
9001	Loop1 fault		
9002	Loop2 fault		
9003	Loop3 fault		
9004	Loop4 fault		
9005	Loop5 fault		
9006	Loop6 fault		
9007	Loop7 fault		
9008	Loop8 fault		
9009	Reserved		
9010	Reserved		
9011	Reserved		
9012	Reserved		
9013	Reserved		
9014	Reserved		
9015	Reserved		
9016	GA input		
9017	PA input		
9018	Backup input 1		
9019	Backup input 2		
9020	MSBD Fault	Check MSBD fuse or switch	
9021	ESBD Fault	Check ESBD fuse or switch	
9022	Ship's DC24V Fault	Check Ship's DC24V fuse or switch	
9023	Charger Fault	Connect Vendor	
9024	Battery Fault	Charge the battery	
9025	Battery Disconnect	Check the BATTERY fuse and switch	
9026	Earth Fault		
9027	MAG. Door hold line disconnect		
9028	Fire 1 Relay		
9029	Fire 2 Relay		
9030	Fire 3 Relay		
9031	Fire 4 Relay		
9032	Fire 5 Relay		
9033	Fire 6 Relay		
9034	Bell 1		
9035	Bell 2		
9036	PA output		
9037	Fault 1 Relay		
9038	Fault 2 Relay		
9039	Fault 3 Relay		
9040	Fault 4 Relay		
9041	System Fault Output		
9042	Power Fault Output		
9043	Alarm delay		
9044	PlusFog ZONE 1		
9045	PlusFog ZONE 2		
9046	PlusFog ZONE 3		
9047	PlusFog ZONE 4		
9048	PlusFog ZONE 5		
9049	PlusFog ZONE 6		
9050	PlusFog ZONE 7		

9051	PlusFog ZONE 8		
9052	PlusFog ZONE 9		
9053	PlusFog ZONE 10		
9054	PlusFog ZONE 11		
9055	PlusFog ZONE 12		
9056	PlusFog ZONE 13		
9057	PlusFog ZONE 14		
9058	PlusFog ZONE 15		
9059	PlusFog ZONE 16		
9060	System Fault	Repeater 1 Fault	
9061	Repeater 1 Line Fault	Check Communication Line 1	
9062	Repeater 1 Line Fault	Check Communication Line 2	
9063	System Fault	Repeater 2 Fault	
9064	Repeater 2 Line Fault	Check Communication Line 1	
9065	Repeater 2 Line Fault	Check Communication Line 2	
9066	System Fault	Repeater 3 Fault	
9067	Repeater 3 Line Fault	Check Communication Line 1	
9068	Repeater 3 Line Fault	Check Communication Line 2	
9069	System Fault	Repeater 4 Fault	
9070	Repeater 4 Line Fault	Check Communication Line 1	
9071	Repeater 4 Line Fault	Check Communication Line 2	
9072	System Fault	Wrong device type	
9073	System Fault	Device not included in the configuration	
9074	System Fault	Flash checksum error	
9075	System Fault	EEPROM checksum error	
9076	System Fault	Interface board fault	
9077	Interface board line Fault	Check Communication Line 1	
9078	Interface board line Fault	Check Communication Line 2	
9079	System Fault	Loop board 1	
9080	System Fault	Loop board 2	
9081	Repeater 1 Line Fault	Check 24V-GND line	
9082	Repeater 1 Line Fault	Check 24V-GND line1	
9083	Repeater 1 Line Fault	Check 24V-GND line2	
9084	Repeater 2 Line Fault	Check 24V-GND line	
9085	Repeater 2 Line Fault	Check 24V-GND line1	
9086	Repeater 2 Line Fault	Check 24V-GND line2	
9087	Repeater 3 Line Fault	Check 24V-GND line	
9088	Repeater 3 Line Fault	Check 24V-GND line1	
9089	Repeater 3 Line Fault	Check 24V-GND line2	
9090	Repeater 4 Line Fault	Check 24V-GND line	
9091	Repeater 4 Line Fault	Check 24V-GND line1	
9092	Repeater 4 Line Fault	Check 24V-GND line2	
9093	Control Panel Line Fault	Check 24V-GND line	
9094	Control Panel Line Fault	Check 24V-GND line1	
9095	Control Panel Line Fault	Check 24V-GND line2	
9096	Power Off	Power Off	
9097	Loop board 1 line fault	Check interface board /Loop board 1 line	
9098	Loop board 2 line fault	Check interface board /Loop board 2 line	
9099	FPE fault	Check FPE(fire protection equipment)	

6 VDR PROTOCOL

Data direction: from controller to VDR, it is single way transmission.

Electrical signals:RS485

Communication parameter:9600,n8,1or 4800,n,8,1， can be set on the controller.

Data format:

Data unit name	Length(Byte)	Description	Remark
Header	6	$FRFIR	fixed format
Spacer	1	,	
Alarm type	1	S- fire, I- supervisory E-association F-Fault D-Disable R-reset C-communication	
spacer	1	,	
Device type	2	FS — smoke detector FH — heat detector FD — combined detector FM — manual call point OT — others	Reset and communication signals is fixed as OT.
Spacer	1	,	
Loop number	2	decimal system ASCII code	Reset and communication signals is fixed as 00
spacer	1	,	
Device number	3	decimal system ASCII code	Reset and communication signals is fixed as 000
spacer	1	,	
Division number	3	decimal system ASCII code	Reset and communication signals is fixed as 000
spacer	1	,	
Action type	1	A-fire, association, supervisory, disable V —cancel association, fault, supervisory, restore, cancel disable X- device fault	The action type for reset and communication is blank.
terminator	2	\r\n	Start a new line

ANNEX A

Example for the fire alarm system used in fixed water-based local application fire-fighting system

JB-QBC-BS10 fire alarm system can be used in fixed water-based local application fire-fighting system(water-mist control function)

“Fire Protection Control Board” can be used to control water-mist zone’s valve and the control signal can be used as input signal for pump controller. The pump is controlled by pump controller.

This system have auto and manual control mode in water-mist control function

Auto control mode

Auto control mode can only send out starting signal, in 3.13.6.3 ” logic ” setting, set the relative detector’s address to the source place. Set the control module’s address to the “Activate” place. Several items that the contents in the “source” place is the same and the targets are different in “activate” place can be set , that used to control other devices such as AV sounder in the water-mist zone if the fire alarm occurred in this zone), when the system is in auto state, the detector in water-mist zone send out fire alarm , then the module in fire protection control board will be started , start the relative valve and send out starting signal to pump.

In order to stop the module in fire protection control board, press the “reset” key to reset system or press the “activate” key to stop the module in fire protection control board

Manual control mode

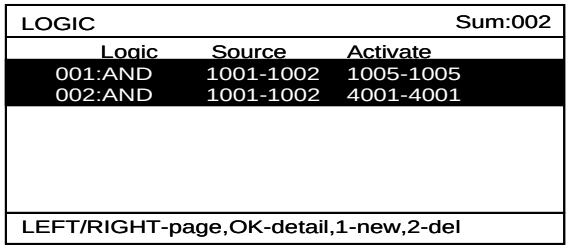
The function is the same with fire protection function in 3.13.6.5.1.

For example: 2 detectors in one water-mist zone, the addressed are 1001 and 1002, the address of AV sounder in relative zone is 1005.

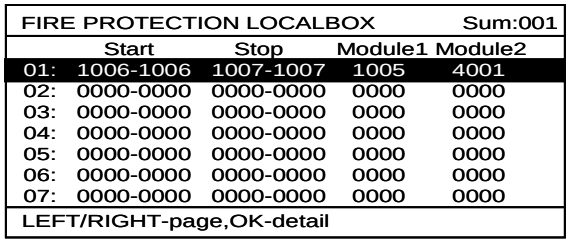
Fire protection control board is connected to loop 4, the address of the modules in fire protection control board is from 4001 to 4010. the 4001 module is used to control the zone’s valve.

One local operating box is installed in this zone, the start key’s address is 1006 and the stop key’s address is 1007.

For auto start mode, refer to the following logic setting figure, in this case, the 1001 and 1002 detectors send out fire alarm at the same time, the 1005 and 4001 module will be started.



For manual start mode, refer to the following “fire protection local box” setting figure. In this case, press the start button(address 1006) to start the modules(1005 and 4001), press the stop button(address 1007) to stop the 1005 and 4001 module.



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